Maryland Historical Trust

Maryland Inventory of Historic Properties number: G-IV-C-188

Name: 1034/MD495 over S. Branch of Crabtree Creek

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended _____ Eligibility Not Recommended __X____

Criteria: ____A ____B ____C ____D Considerations: ___A ___B ___C ___D ___E ___F ___G __None

Comments: _____

_____

_____

Reviewer, OPS: _Anne E. Bruder_____ Date: __3 April 2001____

Reviewer, NR Program: __Peter E. Kurtze_____ Date: __3 April 2001____

MARYLAND INVENTORY OF HISTORIC BRIDGES
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. G-IV-C-188

SHA Bridge No. 11034 Bridge name MD 495 over S. Branch of Crabtree Creek

LOCATION:
Street/Road name and number [facility carried] MD 495

City/town Swanton Vicinity _____

County Garrett

This bridge projects over: Road ___ Railway___ Water X__ Land ____

Ownership: State X County __ Municipal _____ Other _____

HISTORIC STATUS:
Is the bridge located within a designated historic district? Yes _____ No X
National Register-listed district ____ National Register-determined-eligible district __
Locally-designated district _____ Other _____

Name of district _____

BRIDGE TYPE:
Timber Bridge _____:
Beam Bridge _____ Truss -Covered ___ Trestle ___ Timber-And-Concrete ___

Stone Arch Bridge __

Metal Truss Bridge _

Movable Bridge: ____
Swing _____ Bascule Single Leaf __ Bascule Multiple Leaf _____
Vertical Lift _ Retractile _____ Pontoon _____

Metal Girder:_____
Rolled Girder _____ Rolled Girder Concrete Encased _____
Plate Girder _____ Plate Girder Concrete Encased _____

Metal Suspension ___

Metal Arch _

Metal Cantilever ___

Concrete: X
Concrete Arch_____ Concrete Slab X__ Concrete Beam ___ Rigid Frame _____
Other _____ Type Name _____

DESCRIPTION:

Setting: Urban _____ **Small town** _____ **Rural** X

Describe Setting:

Bridge No. 11034 carries MD 495 over the south branch of Crabtree Creek in Garret County. MD 495 runs east-west through the town of Swanton, and the south branch of Crabtree Creek flows south-north. The area around the bridge is partially developed.

Describe Superstructure and Substructure:

Bridge No. 11034 over the South Branch of Crabtree Creek is a single span standard concrete slab bridge built circa 1934. The 1990 SHA Inspection states, "this structure does not conform to SHA Standard Detail Sheets". The structure has a skew angle of 45 degrees. Each of the concrete wingwalls has a different orientation. The northwest wingwall is U-shaped. The northeast and southeast wingwalls are flared. The southwest wingwall is almost straight. The clear span is 22'-3", and the clear roadway width is 26'-5" between metal guardrails. The structure is approximately 23' in length. It is not posted.

The superstructure consists of the slab, the roadway, and metal guardrails which replaced the original concrete parapets. There are no records which indicate when the parapets were replaced or their original design. The 1995 inspection report for this bridge states that both the roadway approaches and the slab have been resurfaced, but it does not give a date for these repairs. The north abutment has one open vertical crack running the full height, light scaling along top edge of the west side, the east side has heavy efflorescence build up. The south abutment has one open vertical crack with spalls along this crack. The northeast and southwest wingwalls have heavy scaling, and there is general deterioration of the concrete, mostly on the ends and top of the cap. Scour along the northeast wingwall and footer is present from 1' to 3' in depth and 13' in length and 4' in width. No changes or repairs have been undertaken. The scour damage has been determined critical.

Discuss Major Alterations:

The bridge originally had concrete parapets which have since been replaced with metal guardrails. Repairs have also been made to the wingwalls. However, there are no records which indicate when these repairs were completed. In addition, there are no documents which describe any further repairs or alterations.

HISTORY:

WHEN was the bridge built 1934

This date is: Actual _____ **Estimated** X

Source of date: Plaque _____ **Design plans** ___ **County bridge files/inspection form** ____

Other (specify) Maryland State Highway Administration bridge files.

WHY was the bridge built?

Unknown

WHO was the designer?

Unknown

WHO was the builder?

Unknown

WHY was the bridge altered?
Unknown

WAS this bridge built as part of organized bridge-building campaign?
Unknown

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events ___ B- Person _____
C- Engineering/architectural character ____
This bridge does not have National Register significance.

Was the bridge constructed in response to significant events in Maryland or local history?

Reinforced concrete slab bridges are a twentieth century structure type, easily adapted to the need for expedient engineering solutions. Reinforced concrete technology developed rapidly in the early twentieth century with early recognition of the potential for standardized design. The first U.S. attempt to standardize concrete design specifications came in 1903-04 with the formation of the Joint Committee on Concrete and Reinforced Concrete of the American Society of Civil Engineers.

Maryland's road and bridge improvement programs mirrored economic cycles. The first road improvement program of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916 -1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war-related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920 to 1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic, with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of $3,000,000.00 for road construction; the primary purpose of these monies was to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund [with an equal sum from the counties] the building of lateral roads. The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. By 1930, Maryland's primary system had become inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930s. Most improvements to local roads waited until the years after World War II.

With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction. In the early years, there was a need to replace the numerous single lane timber bridges, and the state responded by designing standard concrete slab bridges which could be constructed in all of its counties.
Walter Wilson Crosby, Chief Engineer stated in 1906, "The general plan has been to replace these [wood bridges] with pipe culverts or concrete bridges and thus forever do way with the further expense of the maintenance of expensive and dangerous wooden structures". Within a few years, readily constructed standardized bridges of concrete were being built throughout the state.

The creation of standard plans and a description of their use was first announced in the 1912-15

Reports of the State Roads Commission whereby bridges spanning up to 36 feet were to use standardized designs.

Published on a single sheet, the 1912 Standard Plans included those structures that were amenable to such an approach: slab spans, (deck) girder spans, box culverts, box bridges, abutments, and piers (State Roads Commission 1912). Slab spans, with lengths of 6 to 16 feet in two foot increments, featured a solid parapet that was integrated into the slab, with a roadway of 22 feet.

In the Report for the years 1916-1919, a revision of the standard plans was noted:

> During the four years covered by this report, it has been found necessary to revise our standard plans for culverts and bridges, to take care of the increased tonnage which they have been forced to carry. Army cantonments...increased their operations several hundred per cent, and the brunt of the enormous truck traffic resulting therefrom, was borne by the State Roads of Maryland. In addition to these war activities, freight motor lines from Baltimore to Washington, Philadelphia, New York, and various points throughout Maryland, and the weight of many of these trucks when loaded, was in excess of the loads for which our early bridges were designed (State Roads Commission 1920:56).

Published on separate sheets, the new standard plans (State Roads Commission 1919) for slab bridges reveal that the major changes was an increase in roadway width from 22 feet to 24 feet and a redesign of the reinforcement. The slab spans continued to feature solid parapets integrated into the span. The range of span lengths remained 6 to 16 feet, but the next year (1920) witnessed the issue of a supplemental plan for a 20 foot long slab span (State Roads Commission 1920).

The 1924 standard plans remained in effect until 1930, when the roadway width for all standard plan bridges was increased to 27 feet in order to accommodate the increasing demands of automobile and truck traffic (State Roads Commission 1930). The range of span lengths remained the same, but there were some changes designed to increase load bearing capacities. The reinforcing bars were increased in thickness. Visually, the 1930 design can be distinguished from its predecessors by the pierced concrete railing that was introduced at this time.

Three years later, in 1933, a new set of standard plans was introduced (State Roads Commission 1933). This time, their preparation was not announced in the Report; new standard plans were by this time nothing special - they had indeed become standard. Once again accommodating the ever-increasing demands of traffic, the roadway width was increased, this time to 30 feet. The slab span's reinforcing bars remained the same diameter but were placed closer together to achieve still more load bearing capacity.

A system of standard nomenclature for plans was introduced at this time: span type was indicated by a two-letter designator followed by span length and the year of the plan. Thus, CS-18-33 indicates an 18 foot concrete slab of the 1933 standard plan design; CG-36-33 was a 36 foot concrete girder (T-beam) of the same year. The inclusion of the year designator gave ready access to design details for each bridge and indicates that the State Roads Commission anticipated revisions to standard plans.

Bridge No. 11034 is similar to SHA designs from 1933, but it does not conform to SHA Standard Detail Sheets. Built for local transportation needs over a comparatively wide crossing, it is possible this bridge design was modified from SHA designs for use at this site.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?
Unknown.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from historic/visual character of the possible district?
No. Bridge No. 11034 is not located in an area which is eligible for historic designation.

Is the bridge a significant example of its type?
No. Bridge No. 11034 is not a significant example of a concrete slab bridge constructed from 1920 to 1940 due to alterations/modification of character defining elements.

Does the bridge retain integrity of important elements described in Context Addendum?
No. This structure does not retain the integrity of its original design because one of its character defining elements, the parapets, have been replaced. It is also in deteriorating condition.

Is the bridge a significant example of the work of a manufacturer, designer and/or engineer?
Unknown.

Should the bridge be given further study before an evaluation of its significance is made?
No. This bridge is in deteriorated condition and has lost its integrity due to alterations/modification of its parapets. However, additional research concerning the history of this bridge and its relationship to the surrounding landscape may be useful in providing a more complete picture of the bridge's background.

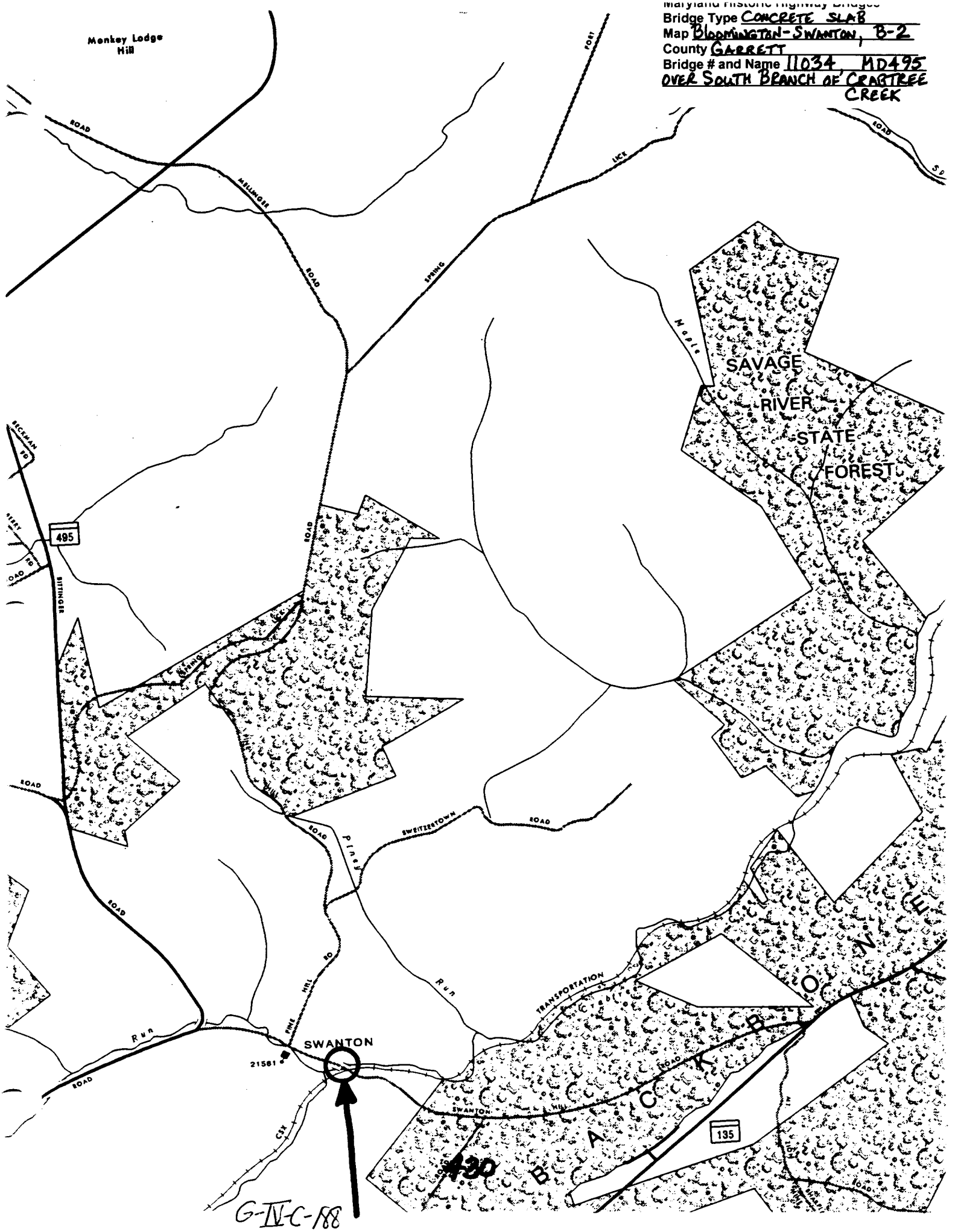
BIBLIOGRAPHY:

County inspection/bridge files _____ **SHA inspection/bridge files** X
Other (list):

SURVEYOR/SURVEY INFORMATION:

Date bridge recorded August 1995
Name of surveyor Adrienne Beaudet Cowden
Organization/Address P.A.C. Spero & Company; 40 West Chesapeake Avenue, Suite 412; Baltimore, Maryland 21204
Phone number 410-296-1635 **FAX number** 410-296-1670

Maryland Historic Highway Bridges
Bridge Type CONCRETE SLAB
Map BLOOMINGTON-SWANTON, B-2
County GARRETT
Bridge # and Name 11034 MD495
OVER SOUTH BRANCH OF CRABTREE CREEK



G-IV-C-188

MHT#G-IV-C-188

EAST APPROACH

MHTH G-II-C-'88

WEST APPROACH

MHT#G-IV-C-188

SOUTH ELEVATION (UPSTREAM)